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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,325	10/23/2003	Edward Belotserkovsky	H0004393	8605

128 7590 04/26/2005

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EXAMINER

CHISDES, SARAH J

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/692,325	BELOTSEKOVSKY ET AL.	
	Examiner	Art Unit	
	Sarah J. Chisdes	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/23/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on October 23, 2003 is acknowledged. A copy of the initialed, signed, and dated PTO-1449 accompanies this office action.

Drawings

The drawings submitted on October 23, 2003 have been received and placed of record in the file.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “208” has been used to designate both a detector and an optical splitter. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: in the **Detailed Description** of the invention, both a detector and an optical splitter are referred to as element “208”. Appropriate correction is required.

Claim 6 is objected to because of the following informalities: It refers to the "method" of claim 5, whereas claim 5 describes a device. Appropriate correction is required.

Claims 14, 16, and 17 are objected to because of the following informalities: They refer to the "method" of claim 8, whereas claim 8 describes a device. The examiner assumes that these claims were intended to be dependent on the method of claim 10, not the device of claim 8. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 recites the limitation "the first optical splitter" in line 1. There is insufficient antecedent basis for this limitation in the claim. The first optical splitter has not previously been defined. If the wording is changed to "a first optical splitter", there is no longer a lack of antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

~~A person shall be entitled to a patent unless—~~

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5-11, and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ortyn (US 6,608,682).

Claim 1 describes a wavelength measurement device comprising multiple optical detectors, each adapted to detect light at a different wavelength, and a sequence of optical

wavelength splitters each adapted to preferentially provide light to one of the detectors at the desired detected wavelength of the detector. Ortyn, in column 4, lines 41-45, describes "a plurality of light reflecting elements . . . reflecting [light] having a predefined characteristic, while enabling light that does not have the predefined characteristic to pass", and in lines 52-54 of the same column, adds "for each light reflecting element there is a detector disposed to receive reflected light". The plurality of optical wavelength splitters are previously disclosed by the selective light reflecting elements of Ortyn, which only allow light with certain characteristics to pass, reflecting all others. These elements are arranged in sequence in Figure 25 of Ortyn. The multiple detectors are previously disclosed as the "detector[s] disposed to receive reflected light" in Ortyn. Therefore all the elements of claim 1 have been previously disclosed by Ortyn.

Claim 2 depends on claim 1 and specifies that the optical splitters are pass filters. In column 5, lines 32-34, Ortyn provides that "each light reflecting element is a dichroic filter, or dichroic mirror, which are arranged to reflect light within predefined bandwidths". The dichroic filters and mirrors employed by Ortyn selectively reflect light in a specified bandwidth, and therefore function as pass filters.

Claim 5 is dependent on claim 1, previously rejected as anticipated Ortyn, and specifies that a first optical splitter provides light to a first detector, and the first optical splitter preferably provides light at a second wavelength to a second optical splitter, which in turn provides the light at the second wavelength to a second detector. In column 5, lines 41-54 Ortyn describes "light of a first spectral bandwidth reflects off the first dichroic element Light of a second spectral bandwidth is passed through the first dichroic element to the next dichroic element and is reflected therefrom The angle of each dichroic element is set such that light reflected from

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it . . . is focused onto a different detector". Thus Ortyn provides a system where preferred wavelengths of light are reflected to a specific detector, and other wavelengths are light are passed though and then later reflected to a different detector.

Claim 6 adds the limitation to claim 5 that the optical splitters are pass filters. This limitation has been shown to be met by Ortyn in the discussion of claim 2.

Claim 7 depends on claim 1, previously rejected as being anticipated by Ortyn, and specifies that the device is used to determine characteristics of paper. In column 15, line 31-32, Ortyn states that the object of interest to be analyzed may be paper. Therefore, Ortyn has previously disclosed using this device to determine characteristics of paper.

Claims 8-9 depend on claim 1, previously rejected as being anticipated by Ortyn, and further specify that the preferential providing of light may be done by either reflection or transmission of light, respectively. In column 24 lines 42-46, Ortyn provides that the "embodiments may [be] constructed such that the detectors receive light transmitted through the dichroic filters, reflected by the dichroic filters or in a combination of transmission and reflection", and therefore meets the limitation that the light be preferentially provided by either reflection or transmission.

Claims 10, 11 and 14-18 speak to the method of using the device specified in claims 1, 2, and 5-9. The method follows from the description of the device and therefore is not patentably distinct. Hence claims 10, 11, and 14-18 are rejected on the same basis as claims 1, 2, and 5-9.

Claims 1-6, 8-15, 17, and 18 are rejected as anticipated by Sui et al. (US 5,995,235). In column 5 lines 43-52, Sui describes

. . . a cascade system 500 using a linear arrangement of bandpass detectors 512_n (n=1,2,3 . . . N) coupled to a light filter/distributor 504. The system 500 contains

an optical signal filter/distributor 504, coupled to a plurality of bandpass filter elements 508_n and detectors 510_n. The optical signal filter/distributor 504 comprises a plurality of lowpass or high pass filter elements 506_n aligned in a collinear arrangement such that the incident beam from the collimating optics 502 is focused upon the first filter element 506₁. The first filter element 506₁ reflects a portion of the spectrum towards the first bandpass photon detector 512₁, filter element 508₁ and detector 510₁. The remaining spectrum is passed through the filter element 506₁ to filter element 506₂ wherein another portion of the spectrum is reflected towards a second bandpass photon detector 512₂. This process continues until the final filter element 506₄ reflects the remaining spectrum towards the last bandpass photon detector 512₄.

The "linear arrangement of bandpass detectors" specified in Sui meets the limitation of multiple optical detectors each adapted to detect light at a different wavelength in claim 1 of the present application. The "optical signal filter/distributor coupled to a plurality of bandpass filter elements" where the filter elements "comprise a plurality of low pass or high pass filter elements" of Sui meets the limitation of the sequence of optical wavelength splitters in claim 1, and the limitations of the optical splitters consisting of pass filters, high pass filters, or low pass filters in claims 2-4 of the present application. The description of how the light is provided to each detector in Sui, meets the limitations of claims 5,6, and 8 in the present application by preferentially providing light to each detector using a pass filter, and reflecting the light to the optical splitter.

In column 2 line 38, Sui allows that light can be transmitted through a filter to be measured by a detector, thereby meeting the limitation of claim 9 of the present application that light is preferentially transmitted to a detector.

Claims 10-15, 17, and 18 speak to the method of using the device specified in claims 1-6, 8, and 9. The method follows from the description of the device and therefore is not patentably distinct. Hence claims 10-15, 17, and 18 are rejected on the same basis as claims 1-6, 8, and 9.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortn in view of Sui. These claims specify that the pass filters of claims 2 and 11 are either high pass or low pass filters. Ortn discloses dichroic filters which act as pass filters, selectively allowing specific wavelengths of light to pass, but does not specify that the filters are either high pass or low pass filters. Sui, in column 5 lines 64-65, in describing an embodiment similar to the one disclosed in Ortn teaches that "the filter elements are low pass or high pass filters". It would have been obvious to one of ordinary skill in the art at the time of the invention to use high pass or low pass filters to function in the same manner as the dichroic filters disclosed by Ortn. High pass or low pass filters would allow a broader range of wavelengths of light to pass through, thereby sending more light to the detector to increase the detected signal, and improving the sensitivity of the device.

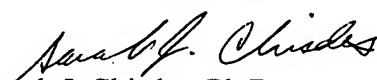
Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sui in view of Ortn. Sui discloses all the elements of the present invention except using the device to analyze the characteristics of paper. Ortn discloses a similar device and specifies that it could be used to analyze paper (column 15, lines 31-32). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the device disclosed by Sui in the analysis of paper because paper can be imaged using reflected incident light.

Telephone/Fax Information

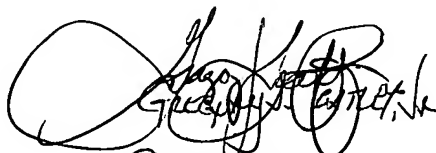
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah J. Chisdes whose telephone number is 571-272-8450. The examiner can normally be reached on 9am -6:30pm Monday through Thursday, 9am-5:30pm on Friday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sarah J. Chisdes, Ph.D.
Examiner
Art Unit 2877

April 19, 2005


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